Claims

1. Safety device for a hand-held weapon with the following features:
   (a) a transponder for authenticating at least one authorized weapon user carrying or wearing the transponder or for authenticating an allowed area for using the weapon,
   (b) wherein the transponder is adapted to emit a wireless preferably cryptified authenticating signal;
   (c) a safety means for a grip of the weapon which is adapted to be necessarily activated by a hand of the user when the hand is holding the grip of the weapon and which upon activation emits a wireless request signal,
   (d) wherein the transponder is adapted to emit the authenticating signal upon receipt of the request signal from the safety means,
   (e) wherein the safety means is further adapted to receive and process the authenticating signal from the transponder; and
   (f) wherein the safety means is adapted to only permit firing of the weapon by the user upon receipt of an authenticating signal from the transponder authenticating an authorized user.

2. Safety device according to claim 1, wherein the safety means and the transponder communicate with each other preferably wireless, more preferably by a bidirectional wireless signal transmission, preferably based on a Challenge response algorithm, even more preferably with a magnetic frequency of approximately 25kHz or via blue tooth interfaces.

3. Safety device according to claim 1 or 2, wherein the safety means comprises a switch which is located on the weapon so that it can be actuated by a hand of the user when the hand is holding the grip of the weapon.

4. Safety device according to claim 3, wherein the switch is situated to be essentially actuated by the wearer's eminences of hand.

5. Safety device according to claims 1 or 2, wherein the safety means comprises a sensor, preferably an optical sensor and/or a pressure sensitive sensor and/or a capacitive sensor and/or a resistance sensor, which is located on the weapon so that it can be actuated by a hand of the user when the hand is holding the grip of the weapon.

6. Safety device according to claims 3 or 4, wherein the safety means is actuated when the switch is actuated and deactivated when the switch is deactivated.

7. Safety device according to claim 5, wherein the safety means is actuated when the sensor is actuated and deactivated when the sensor is deactivated.

8. Safety device according to anyone of the preceding claims, wherein the transponder comprises a switch for activating the transponder for a given period of time for emitting the authenticating signal.

9. Safety device according to anyone of the preceding claims, wherein the transponder comprises a biometric sensor, preferably a fingerprint sensor, for identifying an authorized user before activating the transponder a given period of time for emitting the authenticating signal.

10. Safety device according to anyone of the preceding claims, wherein the transponder comprises keys for entering a personal code for identifying an authorized user before activating the transponder a given period of time for emitting the authentication signal.

11. Safety device according to anyone of the preceding claims, wherein the transponder can be configured to provide an authenticating signal within a range of approximately 20 cm to 1,5 m and preferably approximately 80 cm.

12. Safety device according to anyone of the preceding claims, wherein the transponder is either a relatively small device to be constantly carried or worn by the user or a

stationary device to be mounted in an area for using weapons, such as a shooting-stand.

13. Safety device according to anyone of the preceding claims, wherein different transponders can be used for different users of the safety device.

14. Safety device according to anyone of the preceding claims, wherein the safety device is adapted to permit firing of the weapon for a given number of shots or for a given period of time once it has received an authenticating signal from an authorized user, wherein the period of time preferably can be varied for different transponders of different users of the safety device.

15. Safety device according to anyone of claims 3 to 14, wherein the device is regularly interrogated or inquired in case the switch is actuated by the wearer's eminences of hand.

16. Safety device according to anyone of claims 5 and 7 to 14, wherein the device is regularly interrogated or inquired in case the sensor is actuated by a hand of the user when the hand is holding the grip of the weapon.

17. Safety device according to anyone of the preceding claims, wherein the transponder is adapted to also communicate with a compartment for weapons, such as a locker, in order to give an authorized person access to the compartment.

18. Safety device according to anyone of the preceding claims, wherein the transponder and/or the safety means is programmable in order to authorize a user or a group of users.

19. Safety means according to claim 18, wherein the safety means is programmable preferably wireless, more preferably by a bidirectional wireless signal transmission, preferably based on a Challenge response algorithm, even more preferably with a magnetic frequency of approximately 25kHz or via blue tooth interfaces.

20. Safety means according any of the preceding claims, wherein the request signal and/or the authenticating signal are communicated preferably wireless, more preferably by a bidirectional wireless signal transmission, preferably based on a Challenge response algorithm, even more preferably with a magnetic frequency of approximately 25kHz or via blue tooth interfaces.

21. Safety device according to anyone of the preceding claims, comprising a safety disconnector which is adapted to deactivate the transponder and/or the safety means in case of an emergency, so that a user cannot fire the weapon.

22. Safety device according to anyone of the preceding claims, wherein activities of the transponder and/or the safety means is logged and readable by a computer.

23. Method for securing a hand-held weapon, particularly for operating a safety device according to anyone of the preceding claims, with the following steps:
    (a) providing a transponder which is a adapted to emit a wireless preferably cryptified authenticating signal which authenticates at least one authorized weapon user or authenticates an allowed area for using the weapon,;
    (b) activating a safety means for a grip of the weapon by a hand of the user when the hand is holding the grip of the weapon and emitting upon activation a wireless request signal by the safety means,
    (c) emitting the authenticating signal by the transponder upon receipt of the request signal from the safety means,
    (d) wherein the safety means is further adapted to receive and process the authenticating signal from the transponder; and
    (e) wherein the safety means is adapted to only permit firing of the weapon by the user upon receipt of an authenticating signal from the transponder authenticating an authorized user.